

In the Claims:

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1 16. (New) --A system comprising:
2 an array of analog photocells;
3 a first plurality of shift cells, an output of each shift cell in the first plurality of shift
4 cells being coupled to an input of the next shift cell in the first plurality of
5 shift cells, each shift cell in the first plurality of shift cells being coupled to a
6 corresponding analog photocell in the array of analog photocells;
7 a second plurality of shift cells, an output of each shift cell in the second plurality of
8 shift cells being coupled to an input of the next shift cell in the second
9 plurality of shift cells, each shift cell in the second plurality of shift cells being
10 coupled to a corresponding shift cell in the first plurality of shift cells; and
11 a differential operational amplifier having at least two inputs, a first input being
12 coupled to a terminating output of the first plurality of shift cells and a second
13 input being coupled to a terminating output of the second plurality of shift
14 cells.--

1 17. (New) --The system of claim 16, wherein a key frame of an image captured by the
2 array of analog photocells is transferred from the terminating output of the second
3 plurality of shift cells.--

1 18. (New) --The system of claim 17, wherein the key frame is transferred after the
2 system is first initiated.--

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1 19. (New) --The system of claim 16, wherein the differential operational amplifier
2 produces difference data for the first plurality of shift cells and the second plurality of
3 shift cells.--

1 20. (New) --The system of claim 19, wherein a set of signals provided by the differential
2 amplifier represents a delta frame of an image captured by the array of analog
3 photocells.--

1 21. A method comprising:
2 transferring a signal from each of an array of analog photocells to one storage
3 location of a first plurality of storage locations, an output of each storage
4 location in the first plurality of storage locations being coupled to an input of
5 the next storage location in the first plurality of storage locations;
6 transferring a signal from each of the storage locations in the first plurality of storage
7 locations to a corresponding storage location in a second plurality of storage
8 locations, an output of each storage location in the second plurality of storage
9 locations being coupled to an input of the next storage location in the second
10 plurality of storage locations; and
11 obtaining the difference between signals obtained from a terminating output of the
12 first plurality of storage locations and a terminating output of the second
13 plurality of storage locations.--

1 22. (New) --The method of claim 21, further comprising transferring a key frame of an
2 image captured by the array of analog photocells from the terminating output of the
3 second plurality of storage locations.--

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1 23. (New) --The method of claim 21, wherein the difference between signals obtained
2 from the terminating output of the first plurality of storage locations and the
3 terminating output of the second plurality of storage locations represents a delta frame
4 of an image captured by the array of analog photocells.--

1 24. (New) --A system comprising:
2 an array of analog photocells;
3 a first plurality of shift cells, an output of each shift cell in the first plurality of shift
4 cells being coupled to an input of the next shift cell in the first plurality of
5 shift cells, each of the photocells in the array of analog photocells being
6 coupled to a corresponding shift cell in the of the first plurality of shift cells;
7 a second plurality of shift cells, an output of each shift cell in the second plurality of
8 shift cells being coupled to an input of the next shift cell in the second
9 plurality of shift cells, a signal from a terminating output of the first plurality
10 of shift cells being transferred to an input of a first shift cell in the second
11 plurality of shift cells; and
12 a differential operational amplifier having at least two inputs, a first input of the
13 differential operational amplifier being coupled to the terminating output of
14 the first plurality of shift cells and a second input being coupled to a
15 terminating output of the second plurality of shift cells.--

1 25. (New) --The system of claim 24, further comprising a regeneration amplifier having
2 an input coupled to the terminating output of the first plurality of shift cells and

3 having an output coupled to the input of the first shift cell of the second plurality of
4 shift cells.--

1 26. (New) --The system of claim 25, wherein the regeneration amplifier enhances the
2 output signal of the first plurality of shift cells.--

1 27. (New) --The system of claim 26, wherein signals obtained from the terminating
2 output of the second plurality of shift cells represent a key frame of an image
3 captured by the array of analog photocells.--

1 28. (New) --The system of claim 27, wherein the differential operational amplifier
2 produces signals that are representative of the difference between signals obtained
3 from the terminating output of the first plurality of shift cells and signal obtained
4 from the terminating output of the second plurality of shift cells.--

1 29. (New) --The system of claim 28, wherein the signals produced by the differential
2 operational amplifier represent a delta frame for an image captured by the array of
3 analog photocells.--

1 30. (New) --A method comprising:
2 transferring a signal from each photocell in an array of analog photocells to a
3 corresponding storage location in a first plurality of storage locations, an
4 output of each storage location in the first plurality of storage locations being
5 coupled to an input of the next storage location in the first plurality of storage
6 locations;

7 transferring signals from a terminating output of the first plurality of storage locations
8 to an input of a first storage location in a second plurality of storage locations,
9 an output of each storage location in the second plurality of storage locations
10 being coupled to an input of the next storage location in the second plurality
11 of storage locations;
12 determining the difference between signals from the terminating output of the first
13 plurality of storage locations and signals from a terminating output of the
14 second plurality of storage locations.--

1 31. (New) --The method of claim 30, further comprising amplifying the signals
2 transferred from the terminating output of the first plurality of storage locations to the
3 input of the first storage location in the second plurality of storage locations,--

1 32. (New) --The method of claim 31, wherein signals obtained from the terminating
2 output of the first plurality of storage locations represent a key frame of an image
3 captured by the array of analog photocells.--

1 33. (New) --The method of claim 32, wherein determining the difference between
2 signals from the terminating output of the first plurality of storage locations and
3 signals from the terminating output of the second plurality of storage locations
4 produces a delta frame for an image captured by the array of analog photocells.--

1 34. (New) --A system comprising:
2 an array of analog photocells;

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3 a plurality of analog holding registers, an output of each analog photodiode in the array
4 of analog photodiodes being coupled to a corresponding analog holding register;
5 and
6 a plurality of differential operational amplifiers, a first input of each differential
7 operational amplifier being coupled to an analog photodiode, a second input of
8 each differential operational amplifier being coupled to the corresponding
9 analog holding register for the analog photodiode that is coupled to the first
10 input.--

1 35. (New) --The system of claim 34, wherein an output of each analog holding register in
2 the plurality of analog holding registers is coupled to an input of the next analog
3 holding register in the plurality of analog holding registers.--

1 36. (New) --The system of claim 35, further comprising a plurality of analog
2 multiplexers, a first input of each analog multiplexer being coupled to a differential
3 operational amplifier in the plurality of differential operational amplifiers, a second
4 input of each analog multiplexer being coupled to the corresponding analog photodiode
5 coupled to the differential operational amplifier that is coupled to the first input.--

1 37. (New) --The system of claim 36, further comprising a plurality of shift cells, an
2 output of each shift cell being coupled to an input of the next shift cell in the plurality
3 of shift cells, an input of each shift cell being coupled to one of the plurality of analog
4 multiplexers.--

1 38. (New) --The system of claim 37, wherein a signal from a terminating output of the
2 plurality of shift cells is transferred to a first of the plurality of analog holding
3 registers.--

1 39. (New) --The system of claim 38, further comprising a regeneration amplifier, an
2 input of the regeneration amplifier being coupled to the terminating output of the
3 plurality of shift cells, an output of the regeneration amplifier being coupled to the
4 input of the first of the analog holding registers.--

1 40. (New) --The system of claim 39, wherein a select signal sent to each of the plurality
2 of analog multiplexers chooses either the signals from the array of analog photocells
3 or the signals from the plurality of differential operational amplifiers.--

1 41. (New) --The system of claim 40, wherein the select signal choosing the signals from
2 the array of analog multiplexers results in transmission of key frame data for the array
3 of analog photocells.--

1 42. (New) --The system of claim 40, wherein the select signal choosing the signal from
2 the plurality of differential operational amplifiers results in transmission of difference
3 frame data for the array of analog photocells.--

1 43. (New) --A method comprising:
2 transferring a signal from each analog photocell in an array of analog photocells to a
3 corresponding register in a plurality of registers; and

4 determining the difference between a signal from each analog photocell in the array
5 of analog photocells and a signal from the corresponding register in the
6 plurality of registers for the analog photocell.--

1 44. (New) --The method of claim 43, wherein an output of each register in the plurality
2 of registers is coupled to an input of the next register in the plurality of registers.--

1 45. (New) --The method of claim 44, further comprising choosing a set of signals from
2 between:

3 signals from the array of analog photocells; or
4 the difference determined between the signal from each analog photocell in the array
5 of analog photocells and the signal from the corresponding register in the
6 plurality of registers for the analog photocell.--

1 46. (New) --The method of claim 45, further comprising transferring the chosen set of
2 signals to a plurality of storage locations, an output of each storage location being
3 coupled to an input of the next storage location in the plurality of storage locations.--

1 47. (New) --The method of claim 46, further comprising transferring a signal from a
2 terminating output of the plurality of storage locations to a first of the plurality of
3 registers.--

1 48. (New) --The method of claim 47, further comprising amplifying the signal
2 transferred from the terminating output of the plurality of storage locations to the first
3 of the plurality of registers.--

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1 49. (New) --The method of claim 48, further comprising transmitting a select signal to
2 determine the chosen set of signals.--

1 50. (New) --The method of claim 49, wherein, if the select signal chooses the signals
2 from the array of analog photocells, then the choice results in transmission of key
3 frame data for the array of analog photocells.--

1 51. (New) --The method of claim 49, wherein, if the select signal chooses the
2 difference between the signal from each analog photocell in the array of analog
3 photocells and the signal from the corresponding register in the plurality of
4 registers for the analog photocell, then the choice results in transmission of
5 difference frame data for the array of analog photocells.--

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